-N-$^{13}C^{\alpha}$-$^{13}C'$-N-C^{α}-C'-N-$^{13}C^{\alpha}$-$^{13}C'$-^{15}N-C^{α}-C'-N-C^{α}-C'-

Arg45 - Tyr46 - Arg47 - Asp48 - Val49

Fig. 1

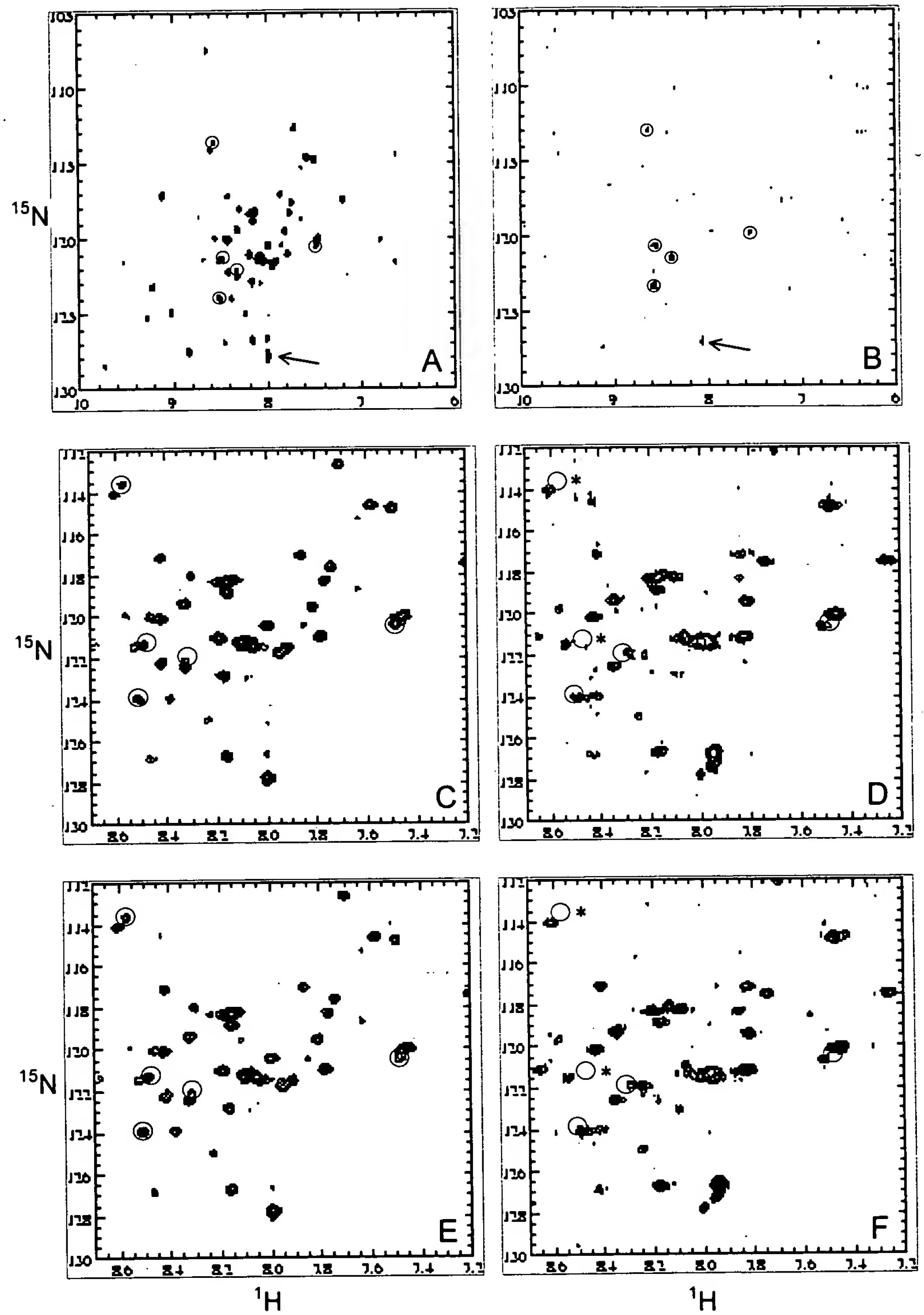


Fig. 2

Fig. 3

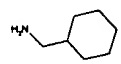
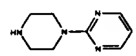
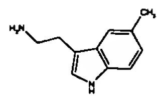
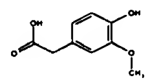
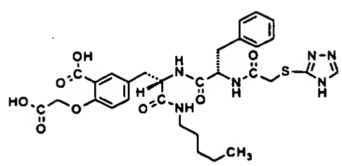
Compound	Structure	% inhibition	NMR binder
control (no compound added)		0	-
N35		14	no
N136		28	no
N200		20	yes
N212		0	no
PNU179983		100	yes

Fig. 4

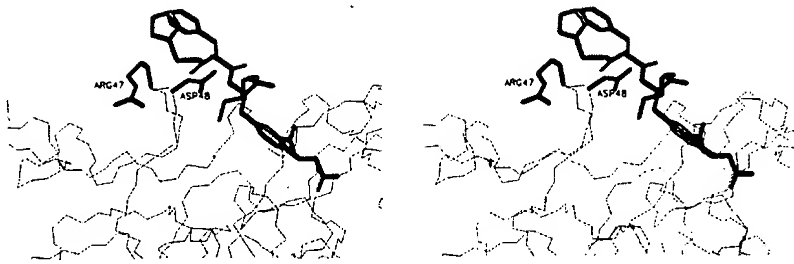
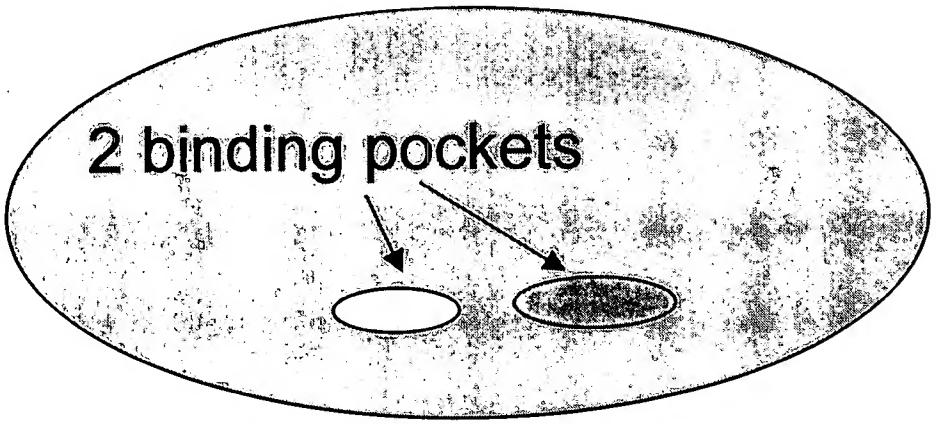


Fig. 5

Application I: screen for binding to single binding site

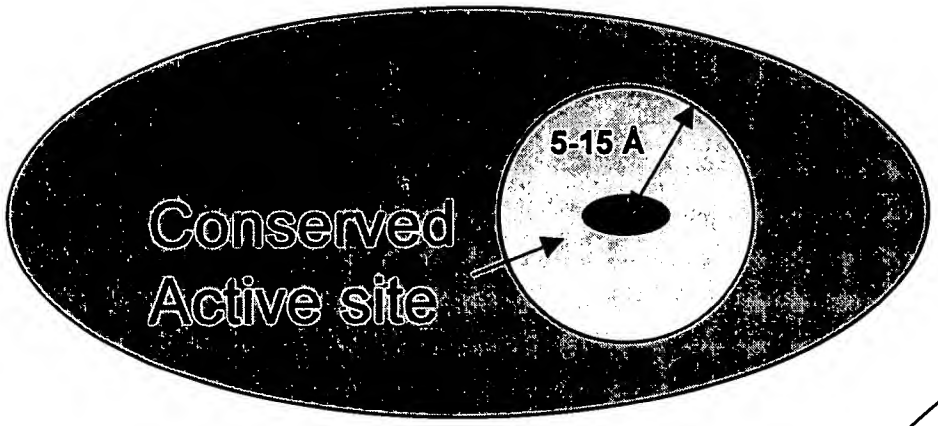


Unique aa pairs in second binding pocket
⇒ use to screen for binders to second pocket

target ...AQSYIEKISQAMESAIEKRLTLAQIMEWIRRNIMG...

Fig. 6

Application II: screen for specificity in vicinity of active site



Unique aa pairs in vicinity of active site
only in target sequence ⇒ screen for selectivity

```
target      ...NQSYIELISQAMESAPEKRLTLAQIHEWIRRNAWG...
protein x   ...PYSYISLITMAMQQAPEKMLTLAQIHEWILTHAKP...
protein y   ...PYSYIALITMAMLQSPEKKLTLAQIHEFILVNAKP...
protein z   ...PYSYIELITMAMQNAPEKKITLAQIHQFILVQAKP...
```

Fig. 7

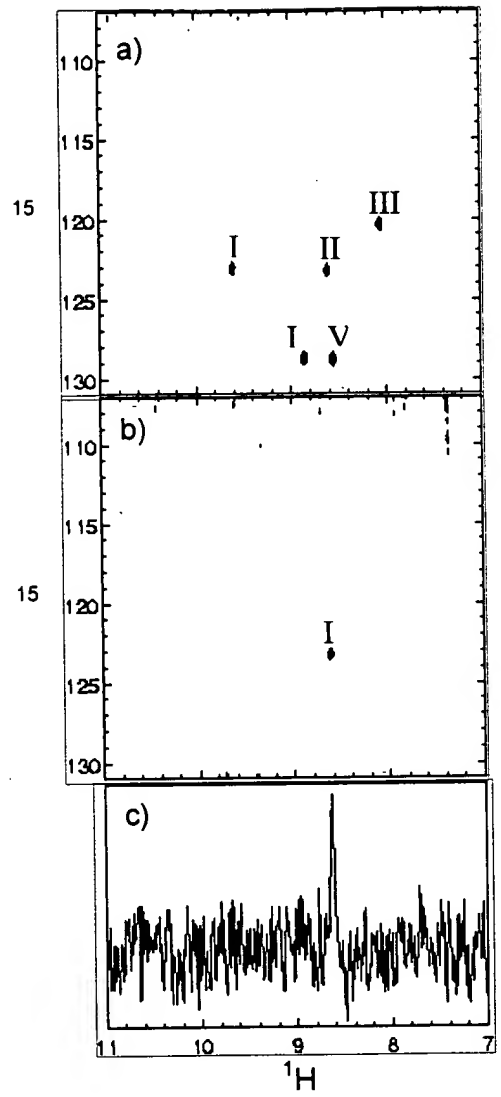


Fig. 8

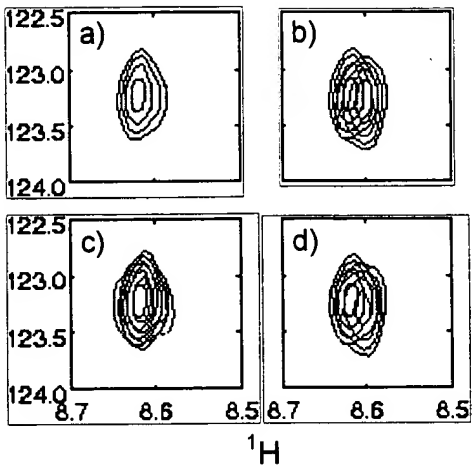


Fig. 9